DOCUMENT RESUME

ED 280 868 TM 870 195

AUTHOR	Soh, Kay Cheng
TITLE	Teacher Locus of Control Scale: A Validity Study. Occasional Paper No. 28.
INSTITUTION	Institute of Education (Singapore).
REPORT NO	ISBN-9971-953-31-5
PUB DATE	Mar 86
NOTE	20p.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	College Faculty; Correlation; *Cultural Context; Foreign Countries; Higher Education; High Schools; Item Analysis; *Locus of Control; *Personality Measures; Secondary School Teachers; Teacher Attitudes; *Test Reliability; Test Theory; *Test Validity
IDENTIFIERS	*Singapore; *Teacher Locus of Control Scale; Teacher Stress

ABSTRACT

This research study investigates the validity of the Teacher Locus of Control Scale (TLCS) in a different cultural environment. The scale, developed in the United States by Taylor et al., measures teachers' beliefs about their own potential to influence student performance and classroom events. Specifically, the study investigates the discriminality of the items and the relationships of the TLCS as a whole with relevant criterion measures such as stress, personality, and educational attitudes. A few words in two of the 20 TLCS items were changed to suit the local linguistic style. Two hundred teachers from technical colleges and high schools in Singapore responded to the scales at their convenience. The reliability of the TLCS was ascertained using Cronbach alpha; and its validity was assessed through its correlation with the seven criterion measures. The majority of the items showed discrimination power. The scale showed positive relationships with several attitudinal measures which support its validity. The study concludes that TLCS has substantially high reliability when used in a different cultural context. (JAZ)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

BEST COPY AVAILABLE

ED280868

Institute of Education
Singapore

OCCASIONAL PAPER no.28

TEACHER LOCUS OF CONTROL SCALE: A Validity Study

Soh Kay Cheng

TM 870 195

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Soh Kay Cheng

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ISBN 9971-953-31-5
ISSN 0217-4138

PREFACE

Locus of control has much to do with a person's belief whether he is in command of his own life. Research in this area has a history of about thirty years though it is only recently that researchers have turned their attention to study how teachers perceive locus of control.

In this Occasional Paper, Dr Soh Kay Cheng makes an attempt to check the validity of an American test for measuring teacher locus of control in Singapore and relates this to several attitudinal scales which he has previously used or recently published. It is hoped that this new addition will arouse interest in an exciting and significant area of social psychological research in the education context. It is also hoped that this Occasional Paper will serve to show postgraduate students the possibility of adapting and validating instruments for their dissertation research.

DR TAN WEE KIAT
HEAD, SCHOOL OF FOUNDATION STUDIES
and CO-ORDINATOR for the OCCASIONAL PAPERS

MARCH 1986

TEACHER LOCUS OF CONTROL SCALE: A VALIDITY STUDY

Soh, Kay-Cheng
Institute of Education
Singapore

ABSTRACT

The Teacher Locus of Control Scale (TLOC) together with a battery of stress, personality and educational attitude measures were completed by technical college lecturers and secondary school teachers. Item analyses show the twenty items of the TLOC Scale to be largely effective. Correlations between TLOC scores and those for the criterion measures are in the expected direction, indicating both convergent and discriminant validity of the TLOC Scale.

People differ in their generalized perceptions of life events as contingent upon their own behaviours or as resulting from forces beyond their control. This gives rise to the construct of internality-externality or locus of control, popularized through research using Rotter's I-E Scale (1966). Subsequent to this, many similar instruments have proliferated and new ones are making their appearances.

The need to cast a locus of control measure in its proper context has been emphatically stressed by Lefcourt (1981). While it is true that many studies have been carried out in schools and colleges, involving young school children and college students, much less is known about teacher locus of control and its attendant effects. This can partly be attributed to the absence of a widely accepted locus of control measure specifically designed for use with teachers.

There were some attempts to meet the need for an instrument for teacher internality-externality (Barfield and Burlingame, 1974; Rose and Medway, 1981). They were however found to have shortcomings in terms of test format and test length (Taylor, Sadowski, and Peacher, 1981). The latest addition to this is the Teacher Locus of Control Scale by Taylor et al (1981) which comprises 20 Likert-type items selected from 100 such items after a trial with more than a hundred teachers. By conventional standards, this scale has shown respectable psychometric qualities (Sadowski et al, 1981; Sadowski and Woodward, 1983).

The present study is an attempt to ascertain the efficacy of the Teacher Locus of Control Scale in a cultural environment different from that in which the scale was originally developed. Specifically, the study investigates the discriminality of the individual items therein and the relationships of the scale as a whole with relevant criterion measures such as stress, personality, and educational attitudes.

METHOD

Subjects

Technical College Sample. In this sample, there were 64 male and 36 female lecturers from a technical college. They taught a variety of courses and almost all of them (96%) were graduates. Half of this sample had less than five years of teaching experience.

Secondary School Sample I. This sample was made up of 38 male and 62 female teachers from one secondary school. While 40% were graduates the other 60% were non-graduates. Half of this sample had 10 or more years of teaching experience.

Secondary School Sample II. This comprised 80 teachers from a number of secondary schools. There were equal distributions in sex and qualification (graduates and non-graduates) with 20 teachers in each sex-qualification combination group. Two-thirds of these teachers had three or more years of teaching.

It is acknowledged that these are captive samples. However, as they came from rather different situations, they provided some indirect indication as to the generalizability of the findings.

Instruments

Teacher Locus of Control. This scale for measuring teachers' beliefs in their own potential in influencing student performance and classroom events was originally developed by Taylor, et al. (1981). A Cronbach alpha of .73 was reported by the original authors for a sample of 103 elementary, middle and high school teachers. Sadowski et al (1981) reported a test-retest reliability of .58 for a sample of 34 teachers over a four-month period, and Sadowski and Woodward (1983) a test-retest reliability of .806 for a sample of 78 teachers over a period of five months. Thus, the Teacher Locus of Control Scale has both acceptable internal consistency and stability.

The validity of this scale was evidenced by its relationships with student perception of origin climate in their classroom and with students grades. Sadowski and Woodward (1983) provided further evidence through cross-lagged panel analysis establishing a moderate causal impact on student perception of classroom climate of internal and external teachers; internal teachers were more likely to engage students in activities which enhanced their motivation.

For the present study, it was necessary to change a few words in only two of the twenty items, to suit the local linguistic style. Thus, the original scale was left almost entirely intact.

A typical internal item is "When I can spend extra time with a slow learner, I soon see positive results". A typical external item reads "I often see a child who is a pawn and there is nothing I can do to help".

Teacher Stress. This is a self-report measure of stress experienced by teachers in their work environment and in working life. The five subscales are for different sources of stress, namely, student behaviours, relationship with the administration, relationship with fellow teachers, intrapersonal conflicts, and physio-psychological symptoms. The sum of the subscale scores yields a total stress score. The items of this Teacher Stress Scale were adapted from the Wilson Stress Profile for Teachers (Wilson, 1979 in Truch, 1981).

Dogmatism. This is a test of closed-mindedness originally developed by Rokeach (1960). A high score on this scale indicates the inability to form new belief systems. The adapted version used in the present study comprised 20 high-loading items which were used in earlier studies (Soh, 1972, 1973, 1974 and 1982) for which split-half reliabilities (with Spearman-Brown correction) of .82 and above were obtained.

Machiavellianism. Named after the ancient Italian author this is a trait characterized by a person concealing his own feelings and opportunistically exploiting others to achieve his own goals. In

brief, a high score on this measure indicates a manipulative, cynical, dispassionate, and morally unconcerned view of interpersonal relationships (Christie and Geis, 1970). In an earlier study (Soh, 1982), an adapted scale with ten items yielded Spearman-Brown reliabilities of .49 and .71 for non-graduate and graduate teacher-trainees, repsectively.

Educational Attitudes. These were measured by a scale comprising twenty items. A high score indicates a more progressive, open, and learner-oriented view of education. In addition to the total score (Educational Attitude) this scale also yields four scores for the subscales: Children, Discipline, Methods, and Administration. The twenty items were adapted from an earlier version (Lau & Soh, 1971) and reliabilities of .53 and .79 were reported recently (Soh, 1982).

In addition three other measures relevant to teacher attitudes were developed and used as criteria. These were Change, Responsibility, and Teaching Behaviours. These three self-reporting scales gauged the teacher's attitude toward changes in life, willingness to accept responsibility, and their classroom teaching behaviours such as reinforcement, evaluation, presentation, etc. Preliminary analysis showed these new scales to be highly reliable, with Cronbach alphas of .89 for Change, .79 for Responsibility and .80 for Teaching Behaviours, based on the responses of the teachers in the Secondary School Sample II.

Procedure

Participation in the present study was voluntary. The instruments were administered by the writer's postgraduate students

through their personal contacts. Subjects responded to the scales at their own convenience. Although this might have sacrificed internal validity to some degree, it can be seen as a trade-off for greater external validity.

Item-analysis was carried out for the three sample separately. For each sample the subjects were split into two groups close to the median of their total Teacher Locus of Control scores. Having had the two groups of highs and lows thus formed, for each of the twenty items in the Teacher Locus of Control Scale, mean item values of the two groups were then calculated. The difference between the two means was then evaluated by the t-test and the item-total correlation was estimated as a point-biserial correlation.

The reliability of the Teacher Locus of Control Scale was ascertained by way of internal consistency using Cronbach alpha. The validity of this scale was assessed through its correlations with the criterion measures.

To ascertain the significance of the t-values and correlations, the .05 level of confidence was chosen and one-tailed test was used. The choice of one-tailed test is justified by the fact that directions of differences (between highs and lows in terms of Teacher Locus of Control total scores) and correlations (between Teacher Locus of Control and the criterion measures) were theoretically predicted implicitly.

RESULTS

The results of item-analyses for the three samples are shown in Table 1. For the Technical College Sample, 15 of the twenty items in

the Teacher Locus of Control Scale discriminated between highs and lows. The performance of the items when used with the Secondary School Sample I seems less than desirable, with only eight out of twenty items discriminating. However, with the Secondary School Sample II, the items performed well in that 17 of the twenty items discriminated. On the whole, three quarters (i.e. fifteen) of the items showed discrimination between high and low scoring subjects in at least two of the three samples. Thus, it may be concluded that most items of the Teacher Locus of Control Scale are effective. This is also reflected in the corresponding point-biserial correlations many of which are sizeable indicating substantial item-total congruence.

Table 2 shows for the three samples the means, standard deviations, and Cronbach alphas. The internal consistency reliability for the Technical College Sample is .72, that for the Secondary School Sample I is .55, and that for the Secondary School Sample II is .71. Thus, the Teacher Locus of Control shows relatively high reliability when used with subjects of diverse backgrounds.

The validity of the Teacher Locus of Control Scale is evidenced by its correlations with various stress indicators. As shown in Table 3, for both Technical College Sample and Secondary School Sample I, the correlations with Student Behaviour and Total Stress are significant. In addition to these, significant correlations were found for Peer Relationships and Intrapersonal Conflicts in the Technical College Sample; and, for Administrative Relationship and physio-psychological Symptoms in the Secondary School Sample II. It is of note that all correlations are <u>negative</u>, indicating that internal subjects reported experiencing lower degree of stress in various

aspects of their working life. Moreoever, when averaged over the two samples, all correlations between Teacher Locus of Control and various stress measures are significant.

The validity of the Teacher Locus of Control Scale is measured in another way through its correlation (or the lack of it) with personality and attitudinal measures. As shown in Table 4, for the Secondary School Sample II, the correlations between Teacher Locus of Control on the one hand and, Educational Attitude (and two of its subscales), Change, Responsibility, and Teaching Behaviours on the other are positive and significant. Meanwhile, internality is not related to closed-mindedness (Dogmatism) and manipulativeness (Machiavellianism).

DISCUSSION

The fact that the majority of the twenty items of the Teacher Locus of Control Scale show discrimination power in differentiating the highs and lows across three samples is encouraging, especially considering the rather small sample sizes. That much fewer items show discrimination in the Secondary School Sample I than in the other two samples may seem to be problematic. However, this is very likely due to the fact that this sample comprises teachers in the same school and hence can be expected to be much more homogeneous in internality-externality than subjects in the other samples. Although subjects in the Technical College Sample were also from the same institution, it can be expected that a college as such is much more complex with a high degree of diversification as compared with a secondary school. Thus, subjects in the Technical College Sample will be more heterogeneous in internality-externality. Greater heterogeneity is

likewise to be expected of the Secondary School Sample II since subjects in it came from different schools. Thus, that items of the Teacher Locus of Control Scale worked less well in the Secondary School Sample I than in the other two samples was more likely due to sample homogeneity than item insensitivity.

The finding that not all items discriminate in all three samples gives rise to the question of item selection: should weak items be discarded from further use? It seems somewhat premature to do this at the moment for two reasons. First, the t-values obtained in the present study are sample-specific; thus, while a significant t-value is definitive evidence of the discrimination power of the item, a nonsignificant t-value does not necessarily mean the item is totally unusable, especially when the difference is in the expected direction. Secondly, the twenty items as used here have been selected by the original authors (Taylor, et al 1981) from a pool of 100 trial items after due consideration was given to content validity, logical similarity, item-total correlations and an even balance between internal and external orientation. For these reasons it would be wise to retain the weak items at this point of time so that further evaluation of these items will be possible. This is especially justified when the internal consistency of the scale has been high even when the scale is used in a different cultural context.

The validity of the Teacher Locus of Control Scale is rather impressive. Various locus of control measures have shown internality to be associated with resilience to adversities; in other words, internality functions is a moderator of stress. The validity of this

construct should show up in the educational context, irrespective of the instruments involved. This is actually what has been found in the present study; teachers scoring higher on the Teacher Locus of Control Scale reported lower stress in various aspects of work situations.

Further evidence of validity is provided by the positive relationships with several attitudinal measures of an educational nature. Previous studies have shown internal teachers to be more flexible and nurturant in their dealing with students. It seems that such teachers feel more psychologically safe to allow greater student exploration and freedom. This again is largely borne up by the present study which also shows internal teachers holding a more positive attitude towards changes in life situations and are more willing to accept responsibilities.

The absence of correlations with closed-mindedness and manipulativeness calls for some discussion, too. Dogmatism as a system trait deals with the ease with which new information is accepted for the formation of new attitudes; it affects the acceptance and processing of incoming information. On the other hand, Teacher Locus of Control deals with a teacher's perception of potential control of what happens 'out there' in the classroom. As for Machiavellianism, it is more relevant in social interactions from which the individual can easily get away (e.g. in an encounter between a salesperson and a prospective client); such situations are not normally found in the school in which teacher-student interaction is continuous over a period of time. Moreover, teaching by nature is not a manipulative enterprise and teachers as a group can be expected to be less manipulative as compared with the general population, perhaps,

through self-selection in career choice. As a matter of fact the attempt to use Dogmatism and Machiavellianism to predict teacher behaviours and values have not been successful (Soh, 1982). Though some degree of correlation between locus of control and manipulativeness have been reported these are in entirely different contexts having nothing to do with teachers (Paulhus & Christie, 1981).

It may then be reasonable to conclude that the Teacher Locus of Control Scale has substantially high reliability when used in a cultural context different from that in which it was originally developed. The scale also shows evidence of both convergent and discriminant validities. Perhaps what is more important is that internality-externality as measured by the Teacher Locus of Control Scale in the educational context fits rather well with the construct of locus of control research literature in general accumulated over the past decades.

REFERENCES

Barfield, V. and Burlingame, M. (1974) The pupil control ideology of teachers in selected schools. Journal of Experimental Education, 42 (4): 6-11.

Christie, R. and Geis, E. (1980) Studies in Machiavellianism. New York: Academic Press.

Lau, W.H. and Soh, K.C. (1971) Educational attitudes of some scondary and primary school principals in Singapore. Educational Review, 23: 143-153.

Lefcourt, Herbert M., ed. (1981) Research with the Locus of Control Construct, Volume 1, Assessment Methods. New York: Academic Press.

Paulhus, Delroy & Christie, Richard (1981) Spheres of control: an interactionist approach to assessment of perceived control. In Herbert M, Lefcourt, 161-188.

Phares, E.J. (1955) Changes in Expectancy in Skills and Chance Situation. Unpublished doctoral dissertation, Ohio State University.

Rokeach, M. (1960) The Open and Closed Mind. New York: Basic.

Rose, J.S. and Medway, F.J. (1981) Measurement of teachers' beliefs in their control over student outcome. Journal of Educational Research, 74: 185-190.

Rotter, J.B. (1966) Generalized expectancies for internal versus external control of reinforcements. Psychological Monographs, 80 (1, Whole No. 609).

Sadowski, C.J., Taylor, R.C., Woodward, H.R., and Martin, B.J. (1982) Reliabiity and Validity of a Likert-type Locus of Control Scale for Teachers. JSAS Catalogue of Selected Documents in Psychology, 12 (32, MS. 2475).

Sadowski, C.J. and Woodward, H.R. (1983) Teacher locus of control and classroom climate: a cross-lagged correlation study. Psychology in the Schools, 20: 506-509.

Soh, K.C. (1972) Dogmatism, training and enjoyment of western classical music. Psychologia, 15: 58-64.

_____ (1973) Dogmatism, sex-role identification and science. Psychologia, 16 (1): 34-37.

_____ (1974) Dogmatism and educational attitudes, Psychologia, 17: 20-24.

_____ (1982) Educational attitudes, dogmatism and Machiavellianism of student teachers. Singapore Journal of Education, 4 (2): 8-6.

Taylor, R.C. Sadowski, C.J., and Peacher, R.K. (1981) Development of a Likert-type locus of control scale for teachers. Paper presented at the Annual Meeting of the Southeastern Psychological Association, Atlanta, Georgia, March, 1981.

Table 1: Scale Items t-ratios and point-biserial correlations

Scale Items	Technical College Sample (N=74)		Secondary School Sample I (N=40)		Secondary School Sample II (N=80)	
	t	r_{pb}	t	r_{pb}	t	r_{pb}
1. Once a child gets ...	4.20*	.44*	1.19	.19	3.64*	.38*
2. If the majority of the class ...	1.37	.16	0.25	.04	2.97*	.32*
3. It is impossible to raise ...	2.67*	.30*	2.33*	.35*	2.81*	.30*
4. I believe I can help ...	1.61	.19	0.16	.03	3.46*	.37*
5. Some personalities just ...	1.00	.12	3.72*	.52*	2.58*	.28*
6. It seems as if absolutely ...	4.67*	.48*	1.10	.18	2.07*	.23*
7. When I can spend extra time ...	2.25*	.26*	3.48*	.49*	2.52*	.27*
8. A teacher has a great amount of ...	1.96*	.23*	2.35*	.36*	4.53*	.46*
9. There will always be ...	3.58*	.39*	0.86	.14	3.84*	.40*
10. Many students who seem ...	1.78*	.21*	1.67*	.26*	0.74	.08
11. On days when my class ...	3.13*	.35*	1.39	.22	1.48	.17
12. If a child is being teased ...	1.50	.18	1.29	.20	1.30	.15
13. I don't feel there is much ...	2.96*	.33*	0.85	.14	2.53*	.28*
14. I often see a child ...	2.98*	.33*	2.12*	.33*	4.33*	.44*
15. A child's behaviour problem ...	5.67*	.56*	0.60	.10	3.05*	.33*
16. I feel like I cannot accomplish ...	2.61*	.29*	1.49	.23	3.32*	.35*
17. Realistically, a teacher can ...	1.73*	.20*	2.16*	.33*	2.86*	.31*
18. If I study the situation ...	1.17	.14	1.38	.22	2.46*	.27*
19. If a student comes to me ...	3.66*	.40*	1.23	.20	2.93*	.32*
20. If I consistently use ...	3.44*	.38*	3.09*	.45*	5.94*	.56*

Note: See Taylor et al. (1981) for actual items.

Table 2: Means, Standard deviations and Cronbach alphas

	Technical College Sample (N=74)	Secondary School Sample I (N=40)	Secondary School Sample II (N=80)
Mean	74.61	76.88	74.99
SD	7.98	7.09	8.34
Cronbach alpha	.72	.55	.71

Table 3: Correlations between Teacher Locus of Control and Teacher Stress

Measure	r's with Teacher Locus of Control		Average r's (N=114)
	Technical College Sample (N=74)	Secondary School Sample (N=40)	
Student Behaviour	-.33*	-.45*	-.38*
Administrative Relationship	-.15	-.28*	-.22*
Peer Relationship	-.24*	-.13	-.20*
Intrapersonal Conflicts	-.26*	-.14	-.23*
Physio-psychological symtoms	-.17	-.46*	-.31*
Total Stress	-.28*	-.40*	-.33*

* $p < .05$ (one-tailed)

Table 4: Correlations between Teacher Locus of Control and Criterion Measures for Experienced Teacher Sample (N=80)

Criterion Measures	r's with Teacher Locus of Control
Dogmatism	-.09
Machiavellianism	-.08
Educational Attitude	.28*
Children	.35*
Discipline	.15
Methods	-.12
Administration	.26*
Change	.32*
Responsibility	.31*
Teaching Behaviour	.23*

* $p < .05$ (one-tailed)